



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/797,050	03/11/2004	Sung-hee Hwang	1293.1893	4707

49455 7590 12/08/2006

STEIN, MCEWEN & BUI, LLP
1400 EYE STREET, NW
SUITE 300
WASHINGTON, DC 20005

EXAMINER

ALUNKAL, THOMAS D

ART UNIT	PAPER NUMBER
----------	--------------

2627

DATE MAILED: 12/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/797,050

Applicant(s)

HWANG ET AL.

Examiner

Thomas D. Alunkal

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24, 38-41 and 46-61 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24, 38-41 and 46-61 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 3/11/04 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3,7-14,19-24,38-41,46-58,60-61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohata et al (hereafter Ohata) (US 6,469,978) and in view of Lin (US 7,000,152).

Regarding claim 1, Ohata discloses an optical disc including a lead-in zone, a data area, and a lead-out zone (see Figure 1), the disc comprising: a predetermined area storing area allocation that indicates whether at least one section of the data area is allocated for disc defect management (Column 7, lines 41-44).

Ohata does not disclose wherein the optical disc is a write-once optical disc. In the same field of endeavor, Lin discloses a method for a write-once recording disc (Column 7, lines 23-26).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to provide the defect management formatted disc of Ohata to the

Art Unit: 2627

write-once medium of Lin, motivation being to prohibit any altering of the data, which can result in unwanted errors.

Regarding claim 2, Ohata discloses wherein the area allocation information comprises information specifying a size of the at least one section of the data area (Column 8, lines 26-28).

Regarding claim 3, Ohata discloses wherein the section allocated to the data area for disc defect management includes a spare area (Figure 2), a temporary disc defect structure (TDDS) area (Figure 4), a temporary defect list (TDFL) area (Figure 4), or a temporary defect management area (TDMA) (Figure 11, DMAs 1-4).

Regarding claim 7, Ohata discloses wherein the predetermined area in which the area allocation information is recorded is the TDDS area (Column 8, lines 38-42).

Regarding claim 8, Ohata discloses wherein a defect management area (DMA) in which the area allocation information recorded in the TDDS area is copied when the data area does not include an area for disc defect management (Figure 4). The DMA, itself, contains the TDDS area. Thus, all information in the TDDS is inherently copied to the DMA).

Regarding claim 9, Ohata discloses wherein a first temporary defect management area (TDMA) formed in the lead-in zone (Figures 1 and 11. First TDMA corresponds to the first DMA); and a second TDMA formed in the data area, wherein the area allocation information indicates allocation of the second TDMA to the data area (Figure 2, spare area. Second TDMA corresponds to the spare area in the user data area), and the predetermined area in which the area allocation information is recorded

is one of the first and second TDMA's (Figures 1 and 4. DDS is located in the lead-in area of the disc).

Regarding claim 10, Ohata discloses wherein the first TDMA is an area in which an updated temporary disc defect structure (TDDS) is recorded at least once before ejecting the disc from a recording and/or reproducing apparatus (Column 10, lines 49-56), and the second TDMA is an area in which the updated TDDS is recorded in units of predetermined operations during which data is recorded (Figure 2. Specifically, updated defect information is stored in the spare areas).

Regarding claim 11, Ohata discloses wherein the area allocation information is recorded in at least one cluster of the predetermined area (Figure 6. Specifically, the PDL list contains defect information upon initialization.) and updated area allocation information is recorded in at least one different cluster of the predetermined area (Figure 6. Specifically, the SDL list contains updated defect information.)

Regarding claims 12,13,14,19,20,21, and 22, these claims contain limitations similar to those in claims 1,2,3,7,8,9, and 10 and are rejected over the same grounds.

Regarding claim 23, Ohata discloses wherein updating the area allocation information by recording area allocation information, which specifies a change in a size of the at least one section, in a predetermined area in response to a command that instructs the size of the at least one section to be changed (Column 9, lines 28-31. Ohata discloses that spare area can be changed to meet with system needs.)

Regarding claim 24, Ohata discloses wherein the recording the area allocation information, the area allocation information is recorded in at least one cluster starting

from a start of the TDDS (Figure 4 and Column 8, lines 39-41 and Column 1, lines 34-35).

Regarding claims 38,39,40,41,60, and 61 these claims contain limitations similar to those in claims 1,2,3,7, and 9 and are rejected over the same grounds.

Regarding claims 46,47, and 48, these claims contain limitations similar to those in claims 1,2, and 3 and are rejected over the same grounds.

Regarding claim 49, Ohata discloses wherein the area allocation information indicates a size of the at least one section as 0 when the at least one section of the data area is not allocated (Column 9, lines 28-31. Spare area, located in the data area, can be reduced in size to zero).

Regarding claim 50, Ohata discloses a recording medium (Figure 1), comprising: a first area having a first predetermined size storing defect management information (Figure 4, defect management area), a second area having a second predetermined size used to record user data (Figure 1 and Column 1, lines 29-31), a third area having a third predetermined size storing data replacing defective units detected within the second area based on the defect management information (Figure 2, spare area), wherein the second area is adjacent to the first area (Figure 1. Specifically, the defect management areas are located adjacent to the user data area).

Regarding claim 51, Ohata discloses wherein the first area is at least one of a lead-in area and a lead-out area on the recording medium (Figure 1. Specifically, defect management areas are located at both lead-in and lead-out areas of the disc).

Regarding claim 52, Ohata discloses wherein the first, second, and third predetermined sizes of the respective corresponding areas of the recording medium are changed by reinitializing the recording medium to update the respective predetermined sizes (Column 9, lines 28-34).

Regarding claim 53, Ohata discloses wherein when defect management will not be performed the predetermined size of the third area is set to zero to maximize the size of the second area (Column 9, lines 28-34).

Regarding claim 54, Ohata does not disclose wherein the optical disc is a write-once optical disc. In the same field of endeavor, Lin discloses a method for a write-once recording disc (Column 7, lines 23-26).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to provide the defect management formatted disc of Ohata to the write-once medium of Lin, motivation being to prohibit any altering of the data, which can result in unwanted errors.

Regarding claim 55, Ohata discloses wherein the first area is at least one of a lead-in area and a lead-out area on the write once optical disc (Figure 1. Specifically, defect management areas are located at both lead-in and lead-out areas of the disc).

Regarding claim 56, Ohata discloses wherein the first area is divided into a plurality of defect management areas positioned adjacent to each other (Figure 11. Specifically, DMAs 1 and 2 are positioned adjacent to each other).

Regarding claim 57, Ohata discloses wherein the first, second, and third predetermined sizes of the respective corresponding areas of the recording medium are

changed by reinitializing the recording medium to update the respective predetermined sizes (Column 9, lines 28-34).

Regarding claim 58, Ohata discloses wherein when defect management will not be performed the predetermined size of the third area is set to zero to maximize the size of the second area (Column 9, lines 28-34).

Claims 4-6, 15-18, and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohata et al (hereafter Ohata) (US 6,469,978) and Lin (US 7,000,152) as applied to claim 1-3, 7-14, 19-24, 38-41, 46-58, 60-61 above, and further in view of Gotoh et al (hereafter Gotoh) (US 6,581,167).

See teachings of Ohata and Lin above.

Regarding claim 4, Ohata does not disclose a space bit map (SBM) information area in which data recording information is recorded, wherein the data recording area information includes header information and a bitmap that indicates areas containing data. In the same field of endeavor, Gotoh discloses the use of a space bit map which indicates the allocation status in each sector of the logical volume space (Column 13, lines 56-61 and Figure 4, Element 113).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to provide the space bit map of Gotoh to the defect management formatted write-once disc of Ohata and Lin, motivation being to more accurately track allocated space than can be provided with just the DDS.

Regarding claim 5, Gotoh discloses wherein when the area allocation information is recorded in a predetermined cluster of the predetermined area, a bit of the bitmap corresponding to the predetermined cluster is recording as a predetermined value that indicates the predetermined cluster contains data (Column 13, lines 56-61).

Regarding claim 6, Gotoh discloses wherein the header information comprises a finalization flag that indicates whether more data is recordable on the disc (Column 4, lines 32-39).

Regarding claims 15, 16, and 17, these claims contain limitations similar to those in claims 4, 5, and 6 and are rejected over the same grounds.

Regarding claim 18, Gotoh discloses wherein the recording the area allocation information comprises recording the area allocation information to indicate the size of the at least one section as 0 when the at least once section of the data area is not allocated (Column 12, lines 31-36).

Regarding claim 59, this claim contains limitations similar to those in claims 4 and is rejected over the same grounds

Conclusions

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Park et al (US 6,526,522) discloses a defect management method of an optical recording medium .

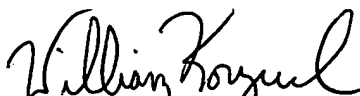
Art Unit: 2627

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas D. Alunkal whose telephone number is (571)270-1127. The examiner can normally be reached on M-F 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (571)272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Thomas Alunkal


WILLIAM KORZUCH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600